LANDSCAPES PAST & URBAN DESIGN
THE CASE OF CHOUTEAU'S POND IN ST. LOUIS

BY

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THESIS

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ABSTRACT

Our cities are rich in history and contain both visible and hidden layers of past lives. As designers, we inherit landscapes with complex narratives and existing conditions, all contributing to a palimpsest of urban development. The subject of this thesis is Chouteau's Pond, an artificial body of water that once existed just south of downtown St. Louis. While the pond is long-gone, the site and its story serve as a spatial and cultural reference for a post-industrial city that has undergone tremendous physical and demographic change. With modern development focused on reviving the declining city, the myth of Chouteau's Pond has influenced intentions for contemporary design. The most recent proposal for the site would effectively erase almost all of the existing layers of the past in order to recreate a sanctified image of the former Pond landscape. This thesis analyzes the development of these layers of the past, as well as presents an alternative design drawing from different theoretical perspectives regarding contemporary urban design as well as the idea of designing with history.

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CHAPTER 1: **INTRODUCTION**

Overview

As designers, we inherit our landscape, and through practice, we commit to a course of change. This thesis focuses on interpreting the past as a tool of urban design, and utilizes an urban post-industrial palimpsest as a subject to present a case for the value of designing with history within the modern city. The site, selected because of its compelling narrative and contemporary relevance, is a large and complex site in St. Louis, Missouri. Adjacent to the central business district, it has experienced several generations of development with periods of growth and decline so that it now represents a rich composite mass of built layers to study the life of the city as well as experiment with design interventions. Utilizing these layers for design purposes, this study seeks to critically reexamine the site through a historical lens, and through the development of a design proposal, to understand the relationship between landscape architecture and the pressures of erasure and preservation that can occur in post-industrial cities.

Image 1: Painting of Chouteau's Pond, circa early 18th century

Finding the Pond

Chouteau's Pond, an artificial body of water that existed between the late 18th and mid-19th centuries and named after a prominent local landowner is the protagonist of this thesis (Sandweiss 2001). Even though the body of water was eventually drained and destroyed, the footprint of the site remains constant within the historical narrative. The site itself is representative of the physicality of urban morphology, and serves as the basis for industrial morphological inquiry.

The story begins in the early days of the industrial revolution with the damming of the Mill Creek as part of a flour-milling operation. Originally running east to west before emptying into the Mississippi River, the creek formed the southern edge of the colonial settlement, and even after its initial transformation, the area surrounding the new body of water remained free of development. However, the industrial revolution stimulated urbanization that led to the construction of multiple small factories and other industrial facilities on either side of the Pond. The once idyllic landscape soon became heavily polluted and, following a devastating cholera outbreak in the 1850s, it was drained and thus irrevocably altered. The depression in the earth where the Pond once lay was subsequently filled with debris, creating new land available for emergent rail technology and a flourishing warehouse district. Deindustrialization and technological obsolescence in the twentieth century eventually stripped the space of its utility once again, and today, the site is home to the expansive 12th Street Rail Yard as well as multiple smaller parcels of land with active industries, abandoned properties, and surface parking lots. This complex contemporary landscape has become a mosaic of land use that characterizes the complicated reality of urban landscapes in decline. Because of this, the location could be described as dross, or as a brownfield, but these terms are inapplicable for the site as a whole. In other words, Chouteau's Pond transcends its physicality and symbolizes the effect of industrial processes upon the landscape through its continuous physical and cultural reinvention. The features of the Pond and surrounding area have evolved as part of the urban morphological course of St. Louis; mirroring the technological progress and economic condition of the city.

The Pond as a Contemporary Site

For the purpose of this thesis, the site in its entirety including past, present, and future will be defined and referred to as "The Pond." And even though the site is currently unrecognizable when compared to historic images of the picturesque water body, the seemingly natural pond was in itself an artificial anthropocentric form, and therefore may be categorized with the existing site condition. Furthermore, the footprint of the Pond demarcates an accumulation of layers that tell a compelling narrative of an industrial past and present. In addition, this term is retained because the construction of the Chouteau's Pond marks not only the beginning of the industrialization of the site, but also the initial construction of its identity serving as the foundation for collective memory.

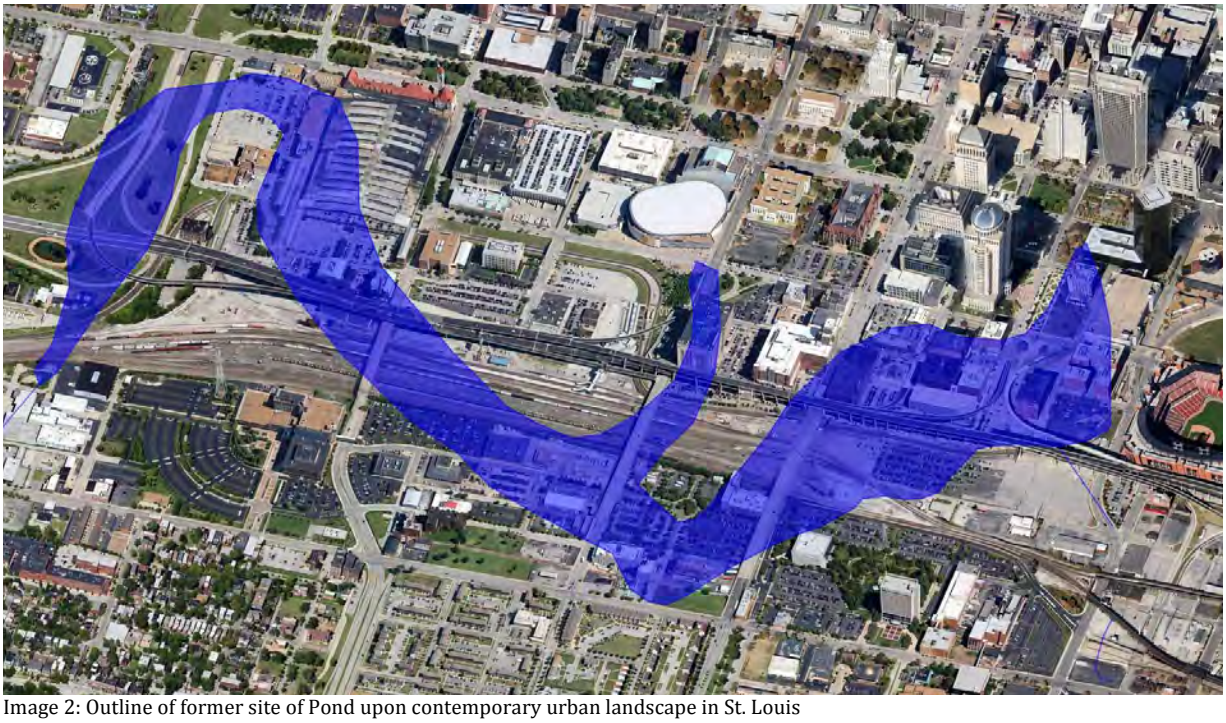


Image 2: Outline of former site of Pond upon contemporary urban landscape in St. Louis

Image 3: Pond circa early 1850s

Image 4: Pond circa 1850s, after draining

Memory and Future Design

In *Historical Ground* John Dixon Hunt writes: "Landscape architecture, we might suppose, has no site these days that is without some historical ground. Few places are 'empty' of history" (Hunt 2014). The relevance of the past, and collective memory in design for this particular location is demonstrated by the proposed Chouteau's Lake development

by HOK (Jackson 2002). Image 5 shows how the proposed master plan incorporates a large water body as a central feature, and the new development is branded as "Chouteau's Lake," a direct reference to the Pond. Therefore, the narrative and picturesque images of the Pond have influenced present-day perception of the vanquished form, and this image is compelling enough to suggest a contemporary reboot. However, perhaps this is an inaccurate historic interpretation of the site, and is more honestly the valorization of an arbitrary and aesthetically pleasing period of significance. Therefore, perhaps a present-day interpretation is inappropriate within the contemporary context of the site and city itself.

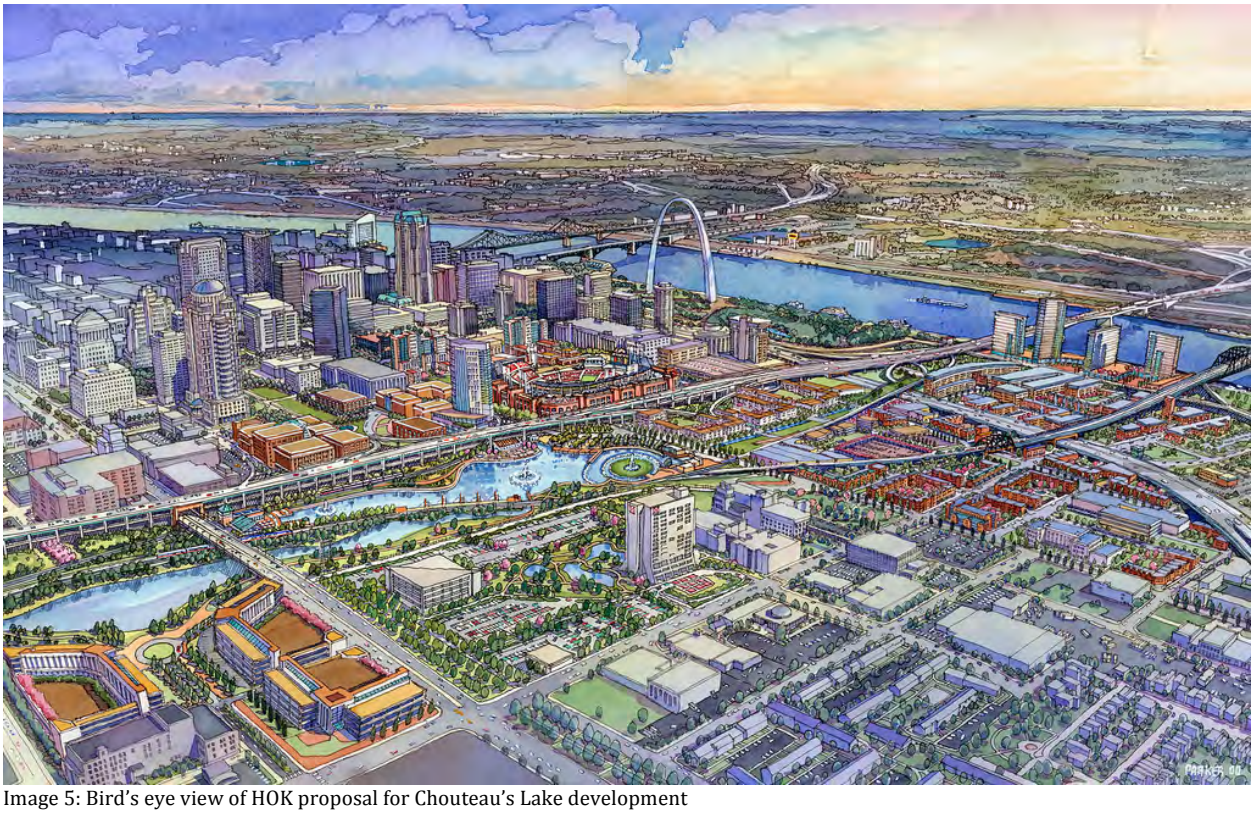


Image 5: Bird's eye view of HOK proposal for Chouteau's Lake development

However, what is exceptional about this myth is also what is most misleading about it: the evidence for its existence. The myth of the pond is established through its presence in a few rare photographs, paintings, in historic maps and texts. In addition, the sad tale of its destruction juxtaposed with picturesque visualizations have resonated with local people

and designers. These memories define the perception of the Pond, adding another dimension of significance to the site itself as a historic place. In fact, the idea to revive the Pond follows traditional park design principles by utilizing the Pond as a naturalistic form and as an allusion to perfect nature or an Arcadian ideal. Thus, the conceptual proposal is a modern translation of a mythical landscape and a lament for a great city amenity destroyed too soon and wasted by industrialization. The anticipated $400 billion dollar price for recreating this myth also exposes the extreme engineering and landscape altering construction necessary to make this a reality (Jackson 2002) (see image 5). The Pond was originally created by a simple dam in the late 1700s, but today, would require major engineering ingenuity as well as necessitate the removal of active industries within the site including the 14th Street Rail Yard.

Envisioning the future of the site requires a more comprehensive understanding of the modern context and past. While classified as post-industrial, the site does have active industries set against underutilized and decaying infrastructure. Intervention here requires a multifaceted approach that can develop a space reflective of the modern city, as the Pond has been throughout its existence. At a 1992 symposium on parks in Rotterdam, West 8 designer Adriaan Gueze remarked on the future of landscape architecture, "There is absolutely no need for parks anymore because the 19th century problems have been solved and a new type of city has been created. The park and greenery have become worn-out clichés. Our parks will never have the beauty and the power of those in the 19th century. But that is not the only reason. This century created a new type of order. Order can be based on disconnection and superimposing" (Weilacher 2008). Here he is addressing the modern context of our cities, and recognizing that the challenges facing our cities are very different from those during the time of Olmsted.

The tremendous changes in the physical, economic and cultural context of the Pond require that I review its development and consider an approach that regards history as a process and respects a tangible past. In the subsequent chapters, this thesis will discuss the urban morphology of the site, as well as coalesce the theoretical work of John Dixon Hunt and syntactical design technique perfected by Peter Latz as a prescribed method of intervention for the Pond.

CHAPTER 2: **HISTORICAL CONTEXT**

City Morphology and the Pond

St. Louis' urban form has been physically influenced through multiple periods of cultural and economic development. It has been occupied or claimed by Spain, France, and the United States since its acquisition from native peoples. The landscape of the Pond is directly correlated with the development and changes in the city, and each era has beckoned a new period of profound transition. The Pond exemplifies a landscape of change.

Patterns of Colonial Settlement

Image 6: St. Louis Property Surveys, 1847

Image 6 illustrates a property survey from the early nineteenth century, with the Mill Creek tract highlighted in red. These land divisions stem from colonial practices and are significant because these tracts have influenced the city grid today. In its current form, the Pond is still essentially a large void in the urban fabric, without the central creek or water body (Sandweiss 2001). Therefore, even though the space itself has been occupied by many different things, the space that the Pond inhabits has remained, and was in fact created by design.

As the economic prospects of the city began to improve, speculative development became key in guiding future growth. In 1823, Pennsylvanian William Carr Lane became the first mayor of St. Louis and, along with street commissioner Joseph Laveille, sought the establishment of a new social and physical order for the city. Modeled after the Philadelphia city grid, north-south streets were renamed to follow an ordinal system whereas east-west streets were changed to arboreal names. *Rue Royale*, *Rue de l'Eglis*, and *Rue des Granges*, remnants of the colonial landscape, therefore became First, Second and Third Streets (Sandweiss 2001). This intentional political reorganization illustrates the

transition of St. Louis to that of an American speculative-city, one with the goal of encouraging growth and development.

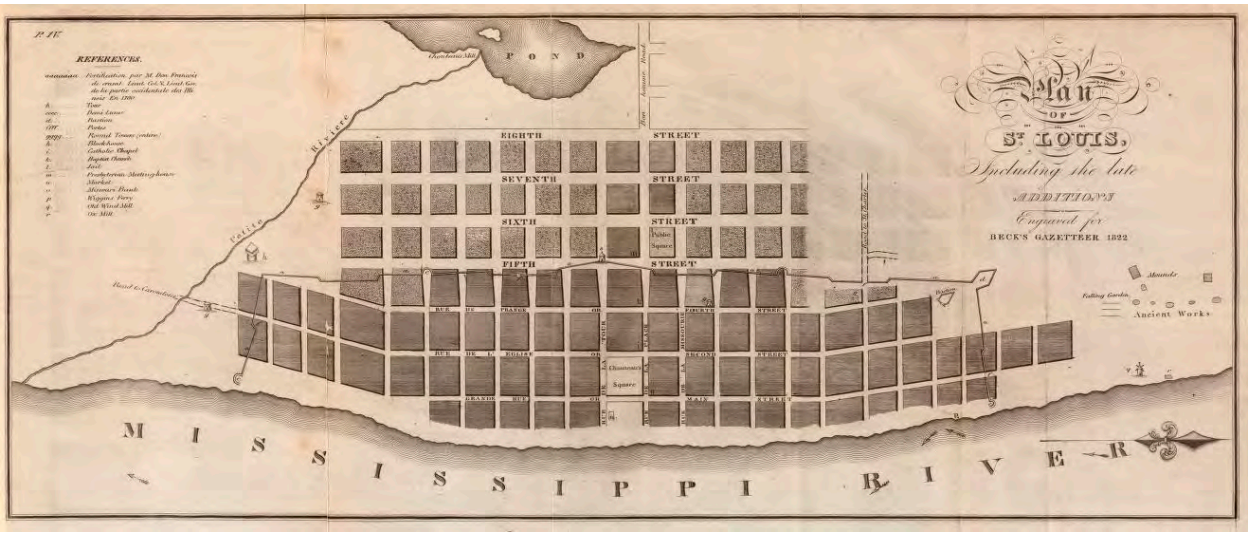


Image 7: map of St. Louis, 1823

The image above illustrates the influence of a "Roman-based tradition" of city planning exemplified by French and Spanish settlements in the Americas up to the 18th century. These urban forms become the groundwork of the "American Speculative city," as described by Sandweiss: "…the city shed the anachronistic symbols of an encompassing social and religious system and established instead a conceptual system for accommodating limitless growth" (Sandweiss 2001).

This transition is important because it also marks the time when St. Louis begins to quickly industrialize and experience explosive growth, becoming a powerful economic engine and sustaining a larger population than Chicago until the 1880 census (US Census Bureau). The eventual success of St. Louis as a "speculative-city" as well as the influence of the industrial revolution demonstrates a shift in attitude regarding the urban landscape of St. Louis. City expansion during the coming decades will deeply affect the Pond, as the open space is filled in with industrial facilities.

Image 8: 1853 city map by J.H. Fisher, modified by author

By 1853, the landscape of the Pond was dramatically altered due to the growing city as well as the introduction of the railroad. As illustrated in Image 8, city streets began to infiltrate the Pond landscape. Consequently, the pastoral riparian edge was erased as warehouses, small industrial facilities, and other buildings were built. Yet, the city grid remained highly influenced by the agricultural past of the city, and thus the area of development adjacent to the Pond is distinct to the neighborhoods surrounding it. In addition, the illustration shows St. Louis' orientation towards the Mississippi River because of its steamboat driven trade economy.

This period in city development denotes the end of the Pond in its original form. In 1851, the Pacific Railroad successfully acquired the land of the water body and began constructing its rail yard, converting the Mill Creek into a sewer. Marking a turning point for the city, within the following second half of the nineteenth century, St. Louis would continue to experience a boom in population and become the fourth largest city in the United States (Sandweiss 2001).

Image 9: Construction of sewer near 14th street, circa 1860

While the rail yard would dominate the Pond landscape for over a century, the city around the site would continue to change, particularly with the onset of urban renewal projects in the mid-twentieth century including the Jefferson National Expansion Memorial, the construction of the elevated interstate, and the razing of part of the adjacent southern neighborhood for the construction of additional public housing as well as Interstate 55. Additionally, the construction of the floodwall beginning in 1959 would completely separate the former creek valley and the river (Hurley 1997). The floodwall construction was the result of an intense lobby by local industrialists who demanded that their factories and production facilities be adequately protected from the flooding. Therefore the wall was primarily constructed as a protective measure of the city's industrial waterfront.

Site/City Morphology

Image 10: Urban fluvial-industrial morphology of Mill Creek valley in St. Louis, by author

Residual Landscape: The Pond as a Void

The contemporary cultural context of this thesis is directed at the shifting status of Midwestern cities, aging and languishing as they struggle to move beyond deindustrialization. The Pond represents this, as the site is primarily post-industrial and has resisted redevelopment. Today the site lingers as a void in the urban fabric. While there are active businesses, industries and land uses in the area, the rail yard, elevated freeway, metrolink line, surface parking lots, and significant grade changes, create a large canyon between the central business district and South City. This issue was recognized by city officials as early as 1878, when it was reported that the rail yard in the creek valley created "an almost insurmountable barrier to free communication between the two parts of the city…" ("Mayor's Message" 1878). And today the site is only traversable via bridges spanning 1500 feet. Furthermore, the site currently divides the city racially and economically. The central business district to the north of the rail yard has experienced tremendous growth in the last decade and is predominately White, while the neighborhoods to the south have experienced less growth, suffered population loss and are mostly African-American.

Image 11: surface parking lots, metrolink, and I-64 elevated freeway, photo by author

Economic Context

Because of its adjacency to the central business district, multiple modes of transportation and a diverse workforce, there are several hubs of economic opportunity surrounding the site including sports facilities, cultural landmarks and corporate campuses.

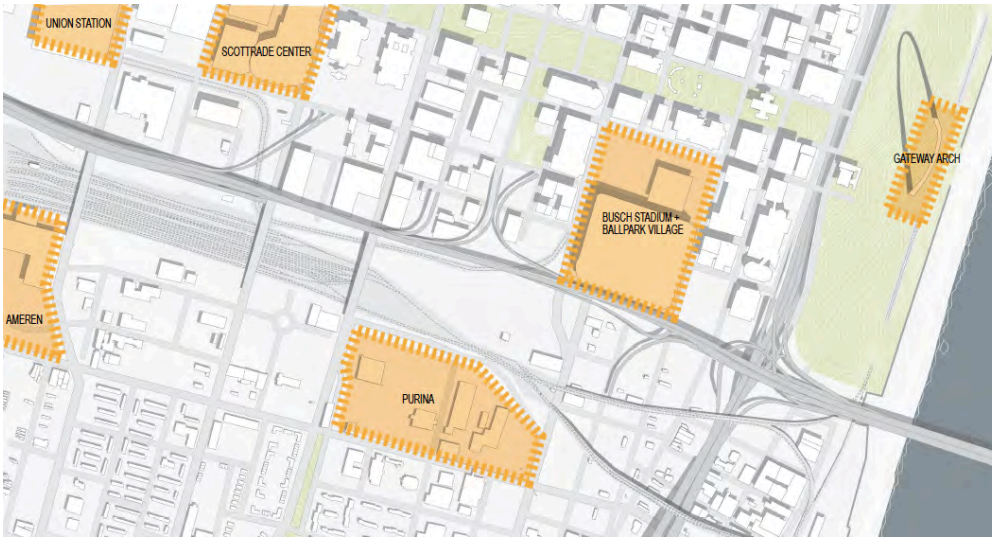


Image 12: Existing economic engines

In addition to these existing economic engines, future development of the city will most likely occur at key points, or areas, which hold significant economic value, available land, or lay on axes of development including burgeoning sports-tourism districts as well as developing sites such as the Ballpark Village near Busch Stadium.

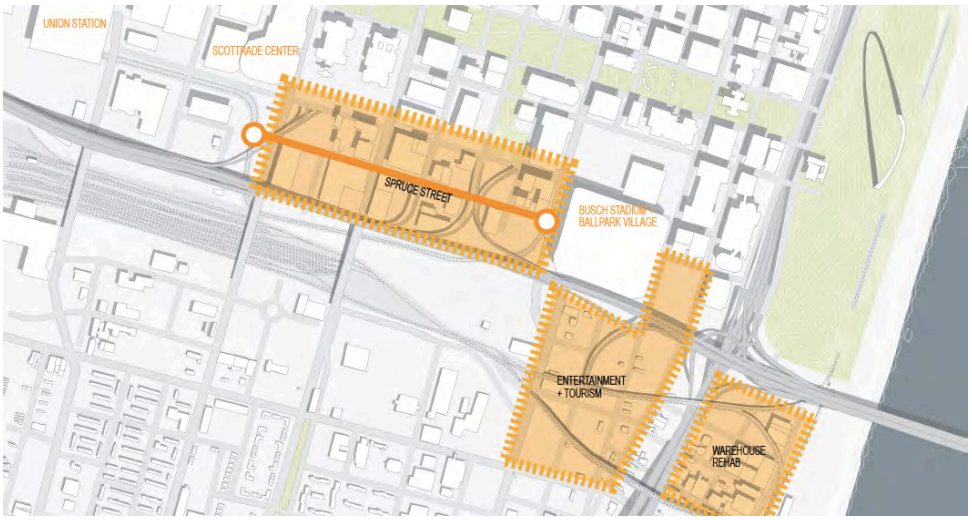


Image 13: Areas of development potential

Existing Site Images

Image 14: site photos taken by author

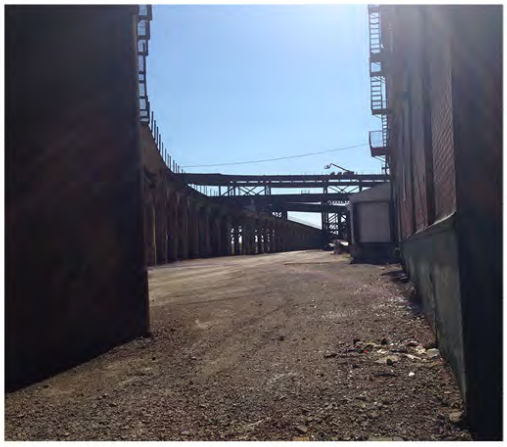





Image 15: site photos taken by author

CHAPTER 3: **THEORETICAL OVERVIEW**

Memory and the City

Urban design and landscape architecture have the ability to create experiences through the physical implementation and interpretation of ideas about the past and the future. These projects envision landscapes that allow one to "grasp the continuum of culture and tradition" through the exploration of material, cultural, temporal and mental realities. (Pallasmaa, 2009). Juhani Pallasmaa is describing the relevance and power of the built environment in relation to collective identity and the formation of cultural narrative. Chouteau's Pond represents this "continuum of culture and tradition" through its inception, destruction, and inevitable reinvention.

> Our existential and lived reality is a thick, layered, and constantly oscillating condition. Architecture is essentially an art form of reconciliation and mediation and in addition to settling us in space and place, landscapes and buildings articulate our experiences of duration and time between the polarities of past and future. In fact, along with the entire corpus of literature and the arts, landscapes and buildings constitute the most important externalization of human memory (Pallasmaa 2009).

Furthermore, he continues to state that our built environment is a reflection of ourselves and serves as evidence of our culture and values. Undoubtedly, the images of the Pond and its picturesque representation illustrate an idealistic urban landscape reminiscent of beloved landmarks such as Central Park or Forest Park. It may be thought that recreating this positive image for the city will effectively reconcile the existing post-industrial landscape. This memory driven methodology exemplifies the relevance of the past, as well as history in designing for contemporary cities.

However, the push for restoring the Pond to its 19th century physical form exposes a psychological relationship between modern day St. Louis and its inhabitants. The decision to valorize the Pond as opposed to the post-industrial ruinous landscape suggests a lack of comfort with the present situation of the city, notably its economic decline and social issues. These underlying concerns have perhaps resulted in a fear-induced and exorbitantly expensive concept guided by the ideals of restoring St. Louis and returning the city back to a period of prosperity.

Water, Infrastructure and Memory

As a hydrological form, the Pond today is still located in a topographical low point within the river valley of the Mill Creek. Patterns of human settlement have always been guided by sources of water, utilizing these urban rivers and streams for transportation, nourishment, and even power (Kondolf, 2009). Beyond their utilitarian value, these waterways have an intrinsic pull for development, as exemplified by the popularity and successes of waterfront redevelopment projects (Otto, McCormick & Leccese 2004). Just like the life of the Pond, as part of urban development, it is not uncommon for many of these urban waterways to have been covered, removed or completely re-engineered to better suit the contextual needs of the day.

Today, new methods of stormwater management are being explored, and projects are focused on the social and ecological recovery of these bodies of water, which were considered problematic during industrialization. Decaying infrastructure has provided an opportunity for recovering these waterways using methods such as day-lighting a covered stream and restoring to the surface a free flowing water body. The memory of these streams and rivers inspires the future, and each new iteration of design for these hydrological landscapes is an interpretation of the original form (Kondolf, 2009).

Designing with "Historical Ground"

As previously discussed, the contemporary design proposal for the Pond builds upon historic knowledge but it is an interpretation of a sterilized past. While the proposal presents a compelling image of the site that seems to reflect John Dixon Hunt's concept of history as "knowledge of the past," it effectively ignores much of the actual history of the Pond. As chapter 2 showed, the Pond has undergone dramatic physical transformation resulting in a palimpsest of historical layers. Today, the site is home to a rail yard, active and inactive industries, parking lots and obsolete infrastructure. The current proposal for the site would effectively erase almost all of these old layers in order to recreate an image of past, rather than addressing the actual existing conditions. These existing conditions, remnants of the past, as well as the invisible aspects of a site are what make the Pond

"historical ground" as defined by John Dixon Hunt, and they could be key to designing a successful urban park.

As opposed to selecting a single sanitized image of the past, it is rather more important to understand and value the less aesthetically pleasing truths of our industrial urban heritage. Hunt explains, "These days we live in a world that is hugely storied and enhanced – or at least one that has been messed up with the debris of the past we no longer want or need, even if it is "part of history'." This "debris" that he refers to, is the obsolete remnants that are still physically visible within a site and are key to defining a sense of place. Therefore, as designers, creating a sense of value of this "debris" is necessary for informing future design. Furthermore, he also explains that one of the flaws with contemporary landscape architecture is that it oftentimes creates placeless spaces less focused on "locality." In this instance, this is largely due to a significant lack of historical understanding and conceptual execution (Hunt 2014). Therefore, could the Chouteau's Lake proposal truly only exist in St. Louis?

Hunt describes different methods in which one may design with "historic ground" with a focus on telling a story about the site. While the existing proposal presents a highly interpreted view of the past, it is manufactured and could be described as a misrepresentation of history. Ultimately the power of the Pond is that the site itself represents change, and its existing state is incredibly representative of the transitional nature of the site. This concept of understanding the past as a continuum or ongoing process presents unique urban design opportunities, which may address contemporary contextual issues more completely while also creating a more accurate physical representation of the past.

CHAPTER 4: **DESIGN RESEARCH**

Peter Latz and Syntax Design

Described as the anti-Olmsted, Peter Latz has created compelling contemporary landscape architecture that does not reinforce the "antiquated images of traditional parks" (Weilacher 2001). For example, his works in Saarbrücken and Essen in Germany illustrate his methods and reinterpretation of nature in a deindustrializing world. Latz adopts a syntactical planning approach, which uses multiple levels of information available on a site and results in design that is contextual and structural. The combination of traditional design upon layers of visible history, topography, and ecology creates landscapes that challenge traditional views of nature and park landscapes because it is not guided by or designed based upon an idealistic or Arcadian image. His methods and body of work exemplify a design approach that follows the ideology proposed by Hunt, and he effectively designs with the transformative power of context.

His work in Saarbrücken, Germany, utilized this syntactical design approach to highlight the industrial footprint and visible remnant infrastructure of the former canal and coal storage landscape by creating a site with different layers of information. In it, he effectively mixed contextual structural cues, post-industrial monuments, and traditional gardens (Weilacher 2001). The success of his work is illustrated by the fact that many of the traditional pathways included in the original implemented work have been overgrown with vegetation, illustrating a preference regarding experience and legibility of the site. The inclusion of the post-industrial layer as part of the syntax equation has evidently influenced the use and identity of the site.

Image 16: images of ruinous design at Saarbrücken

Another example of Latz's syntactical work is Landschaftspark Duisburg-Nord. As an urban regenerative project, the goal of this design was to create a recreational system stemming from the remnants of an industrial complex and, by utilizing Latz's syntax method of design, to develop a site rather than follow classic Arcadian aesthetic (Weilacher 2001).


Images 17,18: Landschaftspark Duisburg-Nord

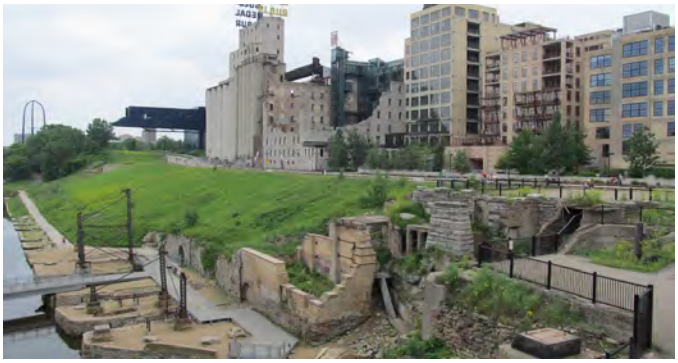
The large and complex abandoned site consisted of 230 hectares of polluted post-industrial landscape featuring: blast furnaces, cooling towers ore bunkers, foundries, etc. Unlike Richard Haag's Gas Works Park, and Robert Smithson's Monuments at Passaic, Latz's vision for Duisburg-Nord was driven by function, and Latz's effort led to the physical transformation of the site as opposed to the strict preservation of historic structures. The result is a blend of plant material--wild and cultivated--juxtaposed with repurposed industrial structures that support a variety of new programs. By retaining the unique character of the industrial site, he created a series of gardens with distinct architectural character and program that connect together to form a regional park notable for its compelling narrative.


Images 19,20: Landscaftspark Duisburg-Nord

Precedent Studies

The following case studies were selected because each demonstrate design concerned with historical ground, showcase syntactical design, as well as value the industrial fabric as layers of informative design inspiration. Each of these projects directly references a historic context, while producing a reinterpretation of nature within contemporary circumstances. These projects exist within different contexts, vary in size, and illustrate different methods and intervention strategies.

Water Works Park / Mill Ruins Park
Minneapolis, Minnesota
Designer: SCAPE




Images 21,22: Mill Ruins Park

The location of the original mill operation was dependent upon the dynamic Saint Anthony Falls, which had been consistently migrating upstream. The construction of the lock and dam for a newer modernized canal in the nineteenth century halted the organic movement of the falls, thus creating a final, and permanent site affiliated with the original waterfall. Today, the canal is still in operation, whereas the mill and older canal have become vacant and obsolete (Minneapolis Parks Foundation). The design exposes historic layers of landscape including sections of the mill, which had previously been covered, and reprograms these elements as new spaces coherent within the larger context of the park. These industrial forms become water features, and open spaces, and they are integrated into a new circulatory system where the footprint of a rail line becomes a major axis connecting these different landscape follies. Additionally, the site is heavily influenced by

the ecological forces of the river, and the topography informs the development of multiple 'outdoor rooms' which are designed as part of natural terrace system bridging the elevation difference between the river and street level.

Image 23: Mill Ruins Park

This design is highly contextual and as explained by the design lead SCAPE, "require(d) a nuanced and balanced approach to expressing the past." The resultant landscape is a blend of exposed past structures and modern context, successfully integrated into a legible urban park that is complimented by adjacent amenities as well as its incorporation as part of the larger Central Mississippi Riverfront Regional Park (SCAPE).

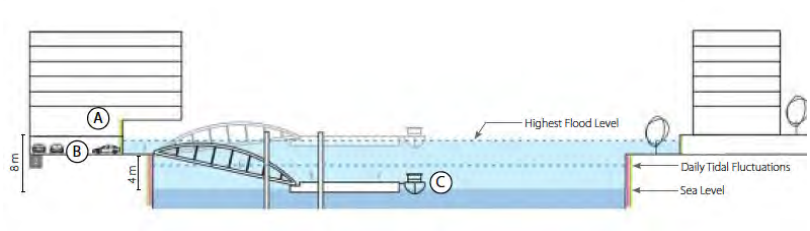
HafenCity
Hamburg, Germany
Designer: KCAP

This project literally exemplifies building upon the past, and is a large-scale mixed-use development over twenty years in the making. The project is named HafenCity (which means Harbor-City) because it rests on the site of the historic harbor. The harbor was built adjacent to the Elbe River and experiences seasonal flooding due to upstream rain events. While flooding was largely a minimal issue for the harbor, today the former dock structures, made obsolete by the invention of shipping containers, are being transformed into a residential and commercial hub (Malone 2011). Since the site for the

HafenCity project sits beyond the flood protection of the city dike, it was important for the designers to create a new neighborhood that would be resilient to annual storm events.


Images 24,25: HafenCity, Speicherstadt historic site

The designers used the historic footprint of the old harbor as inspiration for a new urban form consisting of residential and commercial development, while keeping existing structures deemed historically and aesthetically significant including the Speicherstadt district. Furthermore, the designers took inspiration from the docks and their exposure to water, and used it to develop a multi-tiered design approach to make sure residential units were placed above peak flood levels. Subterranean parking garages and commercial development were placed below or at seasonal flood levels with storm doors capable of keeping out the rising water. The third "level" of the site includes pedestrian promenades and floating walkways that may fluctuate with the water levels or be temporarily submerged (HafenCity Hamburg). By using these different levels as well as maintaining the historic footprint, the design effectively addressed the lack of resiliency of the site while extending the industrial footprint and maintaining historic character. Ultimately, the design creates a livable space in a post-industrial section of the city.



Images 26,27: diagram of flood 'levels', flood preventative storm doors

CHAPTER 5: **DESIGN**

Ultimately, the goal of the design proposed by this thesis is to reveal contemporary processes of change, through syntactical design on historic ground. The design contribution of this thesis utilizes a methodology focused on change and the continuum of time that defines the landscape. Therefore, the initial steps of the design include the identification of land in process, followed by the processing of the potential of these landscapes and, then, by the combination of these inner-looking process with exterior influences of development and change from the outer-contextual processes of the site.

Design was initialized by selecting space in transition, in other words by finding ground. The image below illustrates parcel size landscapes in decline within the study area, which are highlighted in orange. Parcels identified match criteria of landscapes with the following characteristics: abandoned structures, vacated land, marginal spaces, and obsolete or underutilized infrastructure. This method was used to identify the ”available” ground within the site that could become the subject for further manipulation and active design processes.

Image 28: identified parcels, by author

The thesis design also considers the parcel conditions. A report conducted by the EPA around 2000 identified certain parcels within the study area that could potentially require ecological remediation. Since this data is fifteen years old, further investigation of site conditions is recommended in order to reach a more up-to-date and accurate understanding of the ecological conditions of the site. However, since this document serves as the most recent public environmental assessment for this area, it was used to identify parts of the site that should receive special design consideration regarding remediation.

As part of the process of land reclamation, all of these seemingly unrelated parcels are united by the idea that they are spaces representing decline and evident availability. Reframing these spaces as ground for intervention is followed by a selection process of further refinement where certain parcels are discarded due to low levels of connectivity potential, availability issues, infrastructure complications, etc. Each of these sites has been judged to be readily available and in the peak period of decline. With the intervention space delineated, considerations for design may now begin to materialize as the site is reprogrammed to match the contextual influences of population growth, gentrification, ecology, and economic development. For the purpose of this thesis, two "sites" within the study area were selected to highlight future change in more detail. These sites are the eastern and western ends of the site, providing insight as to how the site will complete the desired east west connection to the river and deal with contextual challenges.

Image 29: regional site plan, by author

Site A

This site within the study area was selected and delineated because of its potential for re-purposing. Currently, the landscape is almost entirely paved as it serves as a parking lot for downtown commuters. In addition, it is outlined by transit infrastructure including the railroad, 12th Street Rail Yard, elevated freeway, and 7th Street. In addition, the area is topographically interesting because although the site itself is almost entirely flat, it sits in the old creek valley with elevated edges, thus forming a natural drainage basin.

The initial design plan for this section involves reclaiming the space through very visible intervention strategies, which also exploit the potential of the ecological process. Because of the environmental threats identified in the EPA report, the use of remediating plant material was selected as the primary installation medium. The landscape will be dramatically and quickly transitioned using a mass planting of trees. Multiple species of trees will correspond to soil condition, slope, and levels of water retention. The trees will be aligned in a simple linear pattern, repeated to form a large grid. The space between trees will be navigable with a limited amount formal pathways used to establish pedestrian corridors. The installation is not designed to be permanent, and portions may be removed quickly as the trees may be planted in other parts of the city, or the space is reimaged and reprogramed in future iterations.

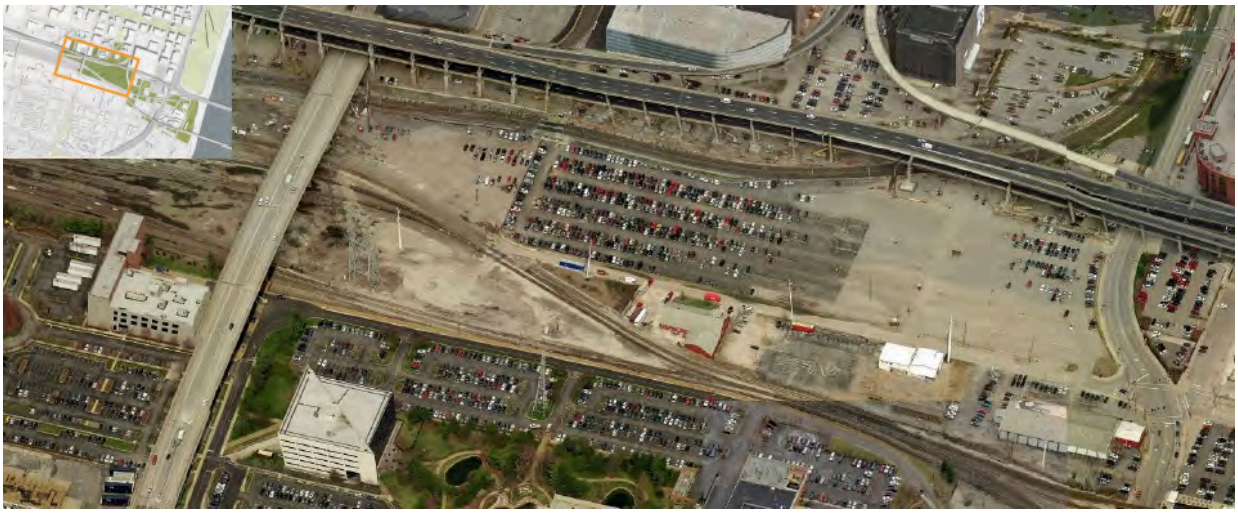


Image 30: aerial of existing conditions of site 'A'

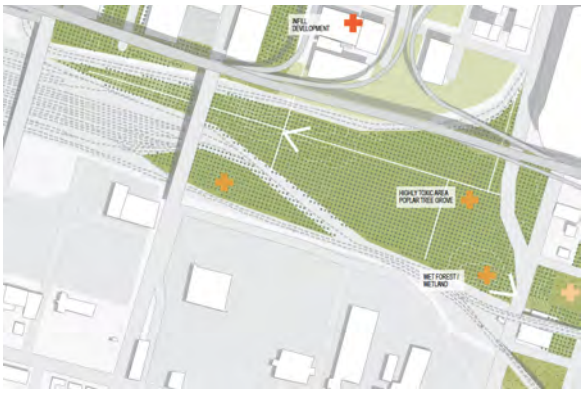


Image 31: plan of site 'A', by author

Image 32,33: site 'A' perspectives, by author

The above images depict the effect of the mass plantings upon the landscape as a method of immediate reclamation and remediation. Following the linear cues of the rail yard while adhering to the mass void of the parking surface, these fields of trees would 'claim' the space and lay the foundation for a burgeoning greenway.

Site B

This location was selected because it is geographically situated adjacent to the Mississippi River. The landscape is complex, and much like site A: the area is delineated by infrastructure that includes elevated, and grade-level freeways, elevated rail lines, roads, and the flood wall. The building stock is primarily made up of former warehouses, which are abandoned or repurposed. The architecture has a certain level of novelty, which appeals to people and the site is a popular place for photography. Additionally, the site is very close to downtown and is showing initial signs of residential growth. Topographically, the site is sloped toward the river, and acts as a low-point for the entire study area.

Image 34: aerial of site 'B'

Because of the aesthetic value of the site, art has a presence within this location, and the infrastructure that snakes through the site forms unique and monumental structures that could be used for a variety of programmatic installations including serving as an outdoor art gallery or sculpture park. The elevated train trestle, which diverges into two strands within the site, can physically serve as the basis for the exhibition serving as the guide for circulation patterns. The ecological condition of the site will be relatively unchanged during this process since the exploration of design here is mostly culturally sensitive and aesthetically charged.

Image 35: site 'B' perspective, by author

In addition to the train trestle, major features such as large abandoned warehouses, which are unsuitable for redevelopment may be utilized for their valuable surface area. And these structures should be utilized to highlight the past of the site, rather than disguise it. A design need not erase the truth of a working landscape and remove all evidence of labor. Coupled with the existent large open green space, the site could be used for film festivals, potentially those focused on St. Louis. The introduction of film into the site adds another layer of potential understanding for the user as they may witness the city as portrayed in popular film. For example, as illustrated in the image on the following page, juxtaposing the romanticized view of St. Louis in "Meet Me in St. Louis" to the contemporary image of St. Louis could reach the user on an emotional level. This experience could result in varied psychological responses, including a lament for the past city, feelings of despair regarding current events, or a feeling of hope for the future of a revived and vibrant city. Regardless, the power of film is that it provides escapism regardless of the physical space.

Image 36: site 'B' perspective, by author

Additionally, the floodwall serves as a physical reminder of the relationship between city and river. Constructed to handle water levels equivalent to 1844 flood, the wall is 15-20 feet high within the site and completely masks the river beyond. Today the wall serves as a divisive interface that keeps people from seeing the river, and understanding what the river is. Yet there is potential to use what is there, and like many walls in cities around the world, some type of physical application could add a layer of interest. An applicable solution for this is the inclusion of murals. The most powerful use of this space as a wall for art would include murals specifically about St. Louis potentially including: illustrations of the river during its heyday for steamboat navigation, showcasing famous local intellectuals and artists, as well as providing contemporary and historical social commentary. Displaying these illustrations creates a navigable space along the border of the wall as well as raises the profile of the location. More importantly, the interface can additionally act as an ultimate surface of cultural reflection, while continuing to both physically and visually disrupt access to the river.

Image 37: site 'B' perspective, by author

Contextual Changes

As the city continues to experience population growth in its central business district and adjacent neighborhoods, new housing and commercial developments will emerge and reshape the edges of the Pond. The greenway will respond to the shifting contextual influences and new spaces will form to adhere to programmatic shifts.

Images 38,39: regional plans, by author

Site 'A' – Contextual Evolution

The mass of trees planted in the first design iteration will begin to give way as population growth on the edges of the greenway necessitates the inclusion of more open space as traditional play fields and more comprehensive circulatory networks begin to emerge. The formal gridded design of the tree field is versatile and easily adjusts to the changing context of the site. New networks and pathways are created emulating the gridded streets of the past as the site is once again divided into a more navigable landscape.

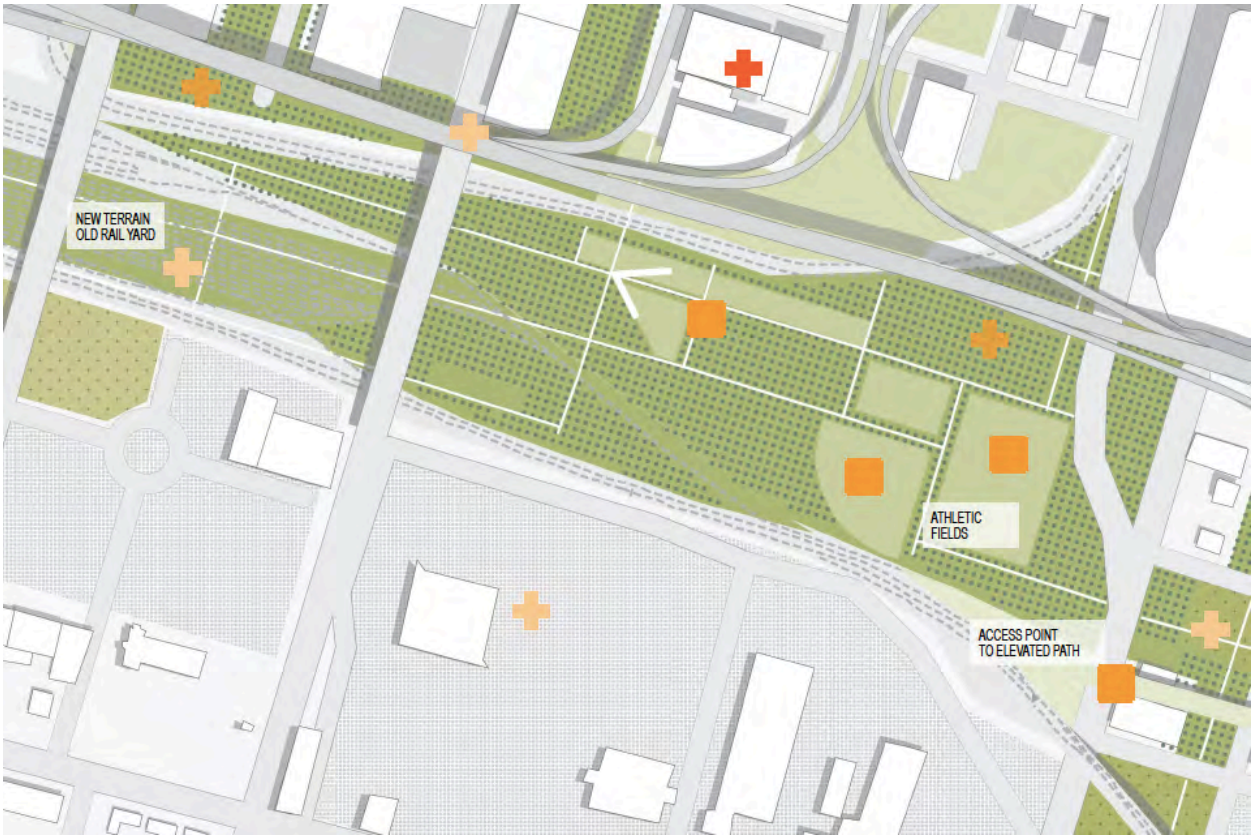


Image 40: site 'A' plan, by author


Image 41: site 'A' perspective, by author

Site 'B' – Contextual Evolution

The emphasis on connection and the introduction of new programs is continued through the inclusion of art in open space, as well as more formal park elements. The elevated rail lines serve as the bones of new circulation, and provide new paths that effectively link the two sites for the first time.

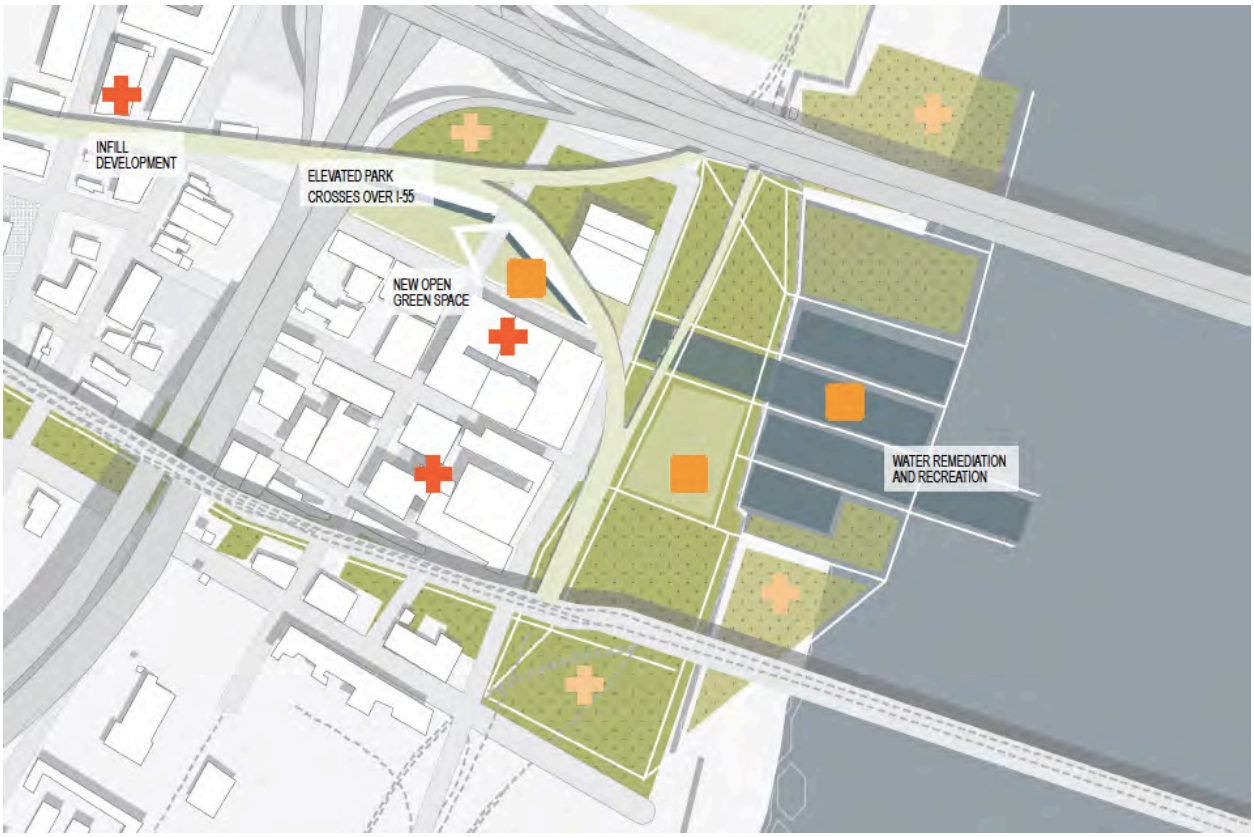


Image 42: site 'B' plan, by author

Additionally, the warehouse district begins to experience repopulation and more commercial activity resultant of rising property values as well as tourism. With infill developments and changing attitudes towards waterfront development within floodplains, the river edge is revisited as a new public interface, with the potential to reconnect the city to the river and remove a century old infrastructural project.

Image 43: site 'B' perspective, by author

As seen above, the rail line becomes a new linear system of parks that is already in place to traverse the terrain and man-made obstacle ridden landscape including the interstate and busy roads, which divide the two sub-sites. Additionally, the site beneath the rail becomes vital urban park space that supports continued programmatic use as an art gallery but can also support future landscape architectural works and more permanent park spaces.

Furthermore, the riverfront presents a unique opportunity for ecological restoration as well as new programmatic development. And as the context of the site continues to develop, the edges of the Pond may once again shift and expand into the existing city fabric. Eventually, the Pond may once again be fully integrated into the urban landscape and operate on multiple levels providing open space, transportation, as well as economic and ecological services.

Image 44: regional plan, by author

CHAPTER 6: **CONCLUSION**

The design presented in this thesis has benefits and drawbacks in comparison with other proposals for this site. It is the direct result of a methodology developed by Peter Latz that addresses historical nuances and contextual patterns of development. This is particularly important in Midwestern cities because they flourished during the industrial revolution when the population boomed and new innovative landscapes were created for manufacturing and transportation. Today, the site remains important to the city of St. Louis.

The proposal by HOK for the site fits a traditional discourse of landscape architecture and addresses the industrial city of the past, which was literally killing its residents through intense pollution and dangerous living conditions. It purports that this design is appropriate in terms of redeveloping the site as an economic engine, yet erases an identifiable past in favor of a sanctified image of the city. Contemporary landscape architecture should still be able to refresh and restore the human through experience, however, it does not necessarily have to be presented as a classic understanding of nature. Designers like Peter Latz have been working with this intention since starting projects like Saarbrücken and Duisburg-Nord. This thesis presents a design process that does not recreate a traditional or picturesque landscape, rather a landscape that is directly representative of a near past – in sum, I am proposing a relic infrastructure. The design is also an interpretation of the past, but represented as an obvious post-industrial landscape where the old industrial forms are included and labeled as the 'bones' of the contemporary site. Therefore, the post-industrial city is understood as a palimpsest that drives urban morphology rather than impeding future growth.

This design simulation recommends opportunities for ecological remediation through the cleanup of the existing polluted soils. This is particularly important when working within a post-industrial context, and particularly beneficial when the site is large, therefore difficult and very expensive to cleanup with conventional soil removal and replacement techniques. The trees in particular are less expensive than moving large quantities of soil and may be re-used in other neighborhoods of the city as street trees. Furthermore, the visibility of the cleanup effort reminds the citizens of their duty, and the

attitude of the times towards building a more sustainable future. Much like embracing the past industrial forms, this process also looks at pollution as a layer of inspiration for design.

Additionally, the method of this design intervention favors following local change as opposed to being the primary instigator. Large developments are often controversial and can displace people, monuments and businesses, provoking social crisis. My solution, instead will resolve local issues through a slow process of mediation as the site is allowed to develop more organically and provides a haven for typically disenfranchised groups. Importantly, the design presented in this thesis addresses the site as a lingering void by populating it and traversing the space with programmatic adjustments as opposed to introducing new (and alien) full-time residential supporting developments. This is an attempt to avoid gentrification as well as to address the fact that the space maintains an already segregated city.

Final Thoughts

The future of Chouteau's Pond may address its past through different methods, and, as this thesis argues, it is possible to understand the site, as well as St. Louis, in a way that leads to design outcomes providing greater benefit to the city and embraces the uncertainty of change rather than the false certainties of traditionalism.

REFERENCES

Dixon-Hunt, John. 2014. Historical Ground: The role of history in contemporary landscape architecture. New York: Routledge.

HafenCity Hamburg. 2015. "Flood-secure bases instead of dikes: safe from high water in HafenCity." Internet. Accessed 2015. http://www.hafencity.com/en/concepts/flood-secure-bases-instead-of-dikes-safe-from-high-water-in-hafencity.html

Hurley, Andrew. "Common Fields: an environmental history of St. Louis." Missouri Historical Society Press: USA. 1997.

Jackson, Margaret. "$400 Million Price Tag Chouteau Lake Development." St. Louis Business Journal. Updated: April 14 2002. http://www.bizjournals.com/stlouis/stories/2002/04/15/story5.html

Kondolf, Matt. 2009. "Rivers, Meadows, and Memory." In Marc Treib, ed. Spatial Recall. Routledge, New York.

Malone, Alanna. "A Stunning Revival for Hamburg's Old Port." Architectural Record. Internet. Accessed 2015. December 19 2011. http://archrecord.construction.com/news/2011/12/HafenCity-Hamburg.asp

Minneapolis Parks Foundation. Water Works. Internet. Accessed 2015. http://mplsparksfoundation.org/projects/water-works/

Otto, B, McCormick, K., & M. Leccese. 2004. "Ecological Riverfront Design: Restoring Rivers, Connecting Communities." American Planning Association. Planning Advisory Service Report Number 518-519.

Pallasmaa, Juhani. 2009. "Space, Place, Memory, and imagination: The Temporal Dimension of Existential Space." In Marc Treib, ed. Spatial Recall. Routledge: New York.

"Report of the Board of Public Improvements." Mayor's Message, 1878. 207.

Sandweiss, Eric. St. Louis. The Evolution of an American Urban Landscape. Temple University Press: Philadelphia. 2001.

SCAPE Landscape Architecture PLLC. Water Works. Internet. Accessed 2015. http://www.scapestudio.com/projects/water-works/

Weilacher, Udo. "Syntax of Landscape: The Landscape Architecture of Peter Latz and Partners." Birkhäuser: Boston. 2008.

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